

ABSTRACT

A handheld, portable color measuring device for measuring the primary colors of red, green and blue in a color target to be analyzed and connected to a built-in LCD display or connected to a separate personal computer. The color measuring device includes an elongated color measuring probe housing. A hollow cone shaped probe tip is attached to one end of the probe housing. A target contact end of the probe tip is placed against a color target to be measured. Inside the probe housing is a battery powered white LED light source connected to a color measurement switch. When the measurement switch is actuated, the white light source illuminates the color target surrounded by the target contact end of the probe tip. A light pipe is centered inside the probe housing and inside a portion of the probe tip. The light pipe captures the reflected light off the color target and projects the captured light onto a 3 color (RGB) sensor. The sensor collects an analog light signal which is made up of percentages of red, green and blue. The light signal is amplified and converter to a digital signal using an A/D converter. The A/D converter is part of a microprocessor mounted on a printed circuit board inside the probe housing. The digital signal is processed by the microprocessor and the percentages of red, green and blue are displayed on the LDC display or on the screen of the computer.

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